REMARKS

The foregoing amendment does attempt to introduce new matter into the present application for invention. Therefore, the Applicant, respectfully, requests that the above amendment be entered in and that the claims to the present application be, kindly, reconsidered.

The Office Action dated April 5, 2004 has been received and considered by the Applicants. Claims 1-12 are pending in the present application for invention. Claims 1-8 and 12 stand rejected by the April 5, 2004 Office Action. Claims 9-11 are objected to by the April 5, 2004 Office Action. The Examiner objects to the Abstract of the disclosure. The foregoing amendment to the specification has amended the Abstract to correct these oversights mentioned by the Examiner in the Office Action.

The drawings are objected to because in Figs. 1, 5, and 6, the elements depicted need to contain a text label as referenced in the specification. The Examiner states that it is office policy to request from applicants that submitted figures contain both text and numerical labels to allow individuals viewing each figure to be able to determine the designation of each element in figure without having to go into the specifications. Redlined drawings are submitted with this response that provide the correct text labels requested by the Examiner.

The Examiner cites various objections to the claims. The Applicants would like to draw the Examiner's attention to the objection raised for Claims 10 and 12. The Examiner suggests replacing the word "claims" with the "claim" in line 1 for each of Claims 10 and 12. The Applicants, respectfully, point out that the Preliminary Amendment filed concurrently with the present application for invention already replaced the term complained of by the Examiner. Specifically, the Preliminary Amendment filed concurrently with the present application for invention replaced "any of claims 1 to 7" with the term "claim" in Claim 10; and the term "any of the preceding claims" was replaced with the term "claim" within Claim 12. Therefore, the Applicants must decline to make the change suggested by the Examiner regarding Claims 10 and 12 because the objection is in error and the suggested change already exist within those claims. The remaining objections have been addressed by the foregoing amendment to the claims as suggested by the Examiner.

The Office Action rejects Claims 1-8 under the provisions of 35 U.S.C. §102(b) as being anticipated by EP 0 332 079 A2 (hereinafter referred to as Tanaka).

The Examiner states that Tanaka discloses the recites elements of the rejected claims. Specifically regarding Claim 1, the Examiner states that Tanaka discloses at column 5, line 20 – column 6, line 35, that the input of the equalizer control signal generator means is adapted to receive a second signal having asynchronous samples, the equalizer control signal generator means comprises detection means for detecting the instant at which the second signal crosses a predetermined signal value, so as to obtain a detection signal, and means for, in response to said detection signal, deriving the equalizer control signal from at least one asynchronous sample value of the second signal at either side of the instant at which the second signal crosses said predetermined signal value, said equalizer control signal being derived from said at least two samples by means of an operation equivalent to arithmetically combining said at least two asynchronous sample values. The Applicants, respectfully, disagree.

Tanaka at column 5, line 20 – column 6, line 35, teaches that that the output of a waveform sampler is differentiated to provide the differentiated signal as shown in FIG. 4D and the differentiated signal is then compared with a reference waveform as shown in FIG. 4E. Tanaka teaches comparing two waveforms (the differentiated signal and the reference waveform) at multiple sampling points, determining the differences between the two waveforms at these sampling points, and using the differences determining multiplication coefficients.

The present invention as recited by rejected Claim1, defines detection means for detecting the instant at which the second signal crosses a predetermined signal value, so as to obtain a detection signal. In response to the detection signal, the equalizer control signal is derived from at least one asynchronous sample value of the second signal at either side of the instant at which the second signal crosses the predetermined signal value. The Applicants, respectfully, point out that Tanaka does not tech or suggest detecting the instant at which the second signal crosses a predetermined signal value, Tanaka, as previously discussed teaches comparing a differentiated signal to a reference signal and determining the differences. Tanaka does not use asynchronous samples; Tanaka uses derivatives of the asynchronous samples. Tanaka does not determine the point at which the asynchronous samples cross a predetermined value. Tanaka compares a differentiated waveform with a reference waveform and determines the differences between the two waveforms. Moreover, Tanaka does not teach or suggest an

operation equivalent to arithmetically combining the at least two asynchronous sample values to derive the equalizer control signal.

In view of the foregoing analysis, there are numerous differences between the recitation of rejected Claim 1 and the cite reference, Tanaka. Therefore, this rejection is respectfully traversed.

Regarding Claims 2-4, these claims depend from and further define Claim 1 either directly or indirectly. Therefore, these claims are believed to be allowable.

Regarding Claim 5, the Examiner stating that Tanaka discloses the FIR filter is a 3-tap FIR filter preferably having a transfer function $H(z) = C_0 + 2C_1z^{-1} + C_0z^{-2}$, C_0 and C_1 being variables which comply with $C_0 = ½ - C_1$ and which variables have a relationship with the qualifier control signal.. The Examiner cites column 4, lines 24-58 of Tanaka as providing the disclosure of the subject matter defined by Claim 5. The Applicants, respectfully, point out that column 4, lines 24-58 of Tanaka discusses a FIR filter, but there is no discussion of the transfer function for that FIR filter. There is also no suggestion of how the transfer function for the FIR filter disclosed by Tanaka would be derived. Additionally, Tanaka does not disclose, or suggest using a 3 tap FIR filter as contended in the Office Action. Tanaka at column 4, lines 34-35 disclose the use of 3-tap delay lines, not a 3-tap FIR filter. Moreover, there is clearly no disclosure, or suggestion, by Tanaka of C_0 and C_1 being variables having a relationship with qualifier control signal which comprises with $C_0 - ½ - C_1$.

Regarding Claim 6, the Examiner stating that Tanaka discloses the FIR filter is a 3-tap FIR filter preferably having a transfer function $H(z) - \Delta + z^{-1} - \Delta z^{-2}$, Δ being a variable having a relationship with the equalizer control signal. The Examiner cites column 4, lines 24-58 of Tanaka as providing the disclosure of the subject matter defined by Claim 6. The Applicants, respectfully, point out that while column 4, lines 24-58 of Tanaka discusses a FIR filter, there is no discussion of the transfer function for that FIR filter. There is also no suggestion of how the transfer function for the FIR filter disclosed by Tanaka would be derived. Additionally, Tanaka does not disclose, or suggest using a 3 tap FIR filter as contended in the Office Action. Tanaka at column 4, lines 34-35 disclose the use of 3-tap delay lines, not a 3-tap FIR filter. Moreover, there is clearly no disclosure, or suggestion, by Tanaka of Δ being a

variable having a relationship with the equalizer control signal.

Regarding Claim 7, the Examiner stating that Tanaka discloses the FIR filter is a 3-tap filter preferably having a transfer function: $H(z) = (C_0 + \Delta) + 2C_1 z^{-1} + (C_0 - \Delta) z^{-2}$, where C_0, C_1 and Δ are variables having a relationship with the equalizer control signal which comprises with $C_0 = \frac{1}{2} - C_1$. The Examiner cites column 4, lines 24-58 of Tanaka as providing the disclosure of the subject matter defined by Claim 7. The Applicants, respectfully, point out that while column 4, lines 24-58 of Tanaka discusses a FIR filter, there is no discussion of the transfer function for that FIR filter. There is also no suggestion of how the transfer function for the FIR filter disclosed by Tanaka would be derived. Additionally, Tanaka does not disclose, or suggest using a 3 tap FIR filter as contended in the Office Action. Tanaka at column 4, lines 34-35 disclose the use of 3-tap delay lines, not a 3-tap FIR filter. Moreover, there is clearly no disclosure, or suggestion, by Tanaka of C_0, C_1 and Δ being variables having a relationship with the equalizer control signal which comprises with $C_0 = \frac{1}{2} - C_1$.

The Office Action rejects Claim 12 under the provisions of 35 U.S.C. §103(a) as being unpatenable over Tanaka, as applied to Claim 1 in view of U.S. Patent No. 6,549,087 B1 issued to Haong, et al. (hereinafter referred to as Haong et al.). The Examiner states that Tanaka discloses all limitations of Claim 1. Tanaka does not however disclose the equalizer control signal generator means comprises a look-up table in order to obtain the equalizer control signal in response to the first control signal. However, Hoang teaches the equalizer control signal generator means comprises a look-up table in order to obtain the equalizer control signal in response to the first control signal. The Applicants would like to, respectfully, point out claim 12 depends from and further define Claim 1. Therefore, Claim 12 is believed to be allowable.

The foregoing amendment adds new Claims 13-20 that are of similar scope to Claims 1-12 and are believed to be allowable for the reasons stated above.

In an effort to move the present application for invention towards allowance, the Applicants have amended the claims to the invention.

Applicant is not aware of any additional patents, publications, or other information not previously submitted to the Patent and Trademark Office which would be required under 37 C.F.R. 1.99.

In view of the foregoing amendment and remarks, the Applicant believes that the present application is in condition for allowance, with such allowance being, respectfully, requested.

Respectfully submitted,

By _____

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